

Date: Thursday, 22/01/2009 8:45:10 AM
User: Julie Dawson

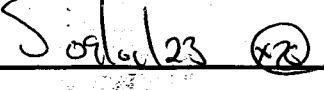
Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: 350 SKIDTUBE EXTRUSION (BENT)
Job Number	: 45063	Part Number	: D26003BENT
Estimate Number	: 10997	Drawing Number	: D2600 D1/D2750 F
P.O. Number	:	Project Number	: N/A
This Issue	: 22/01/2009	Drawing Revision	: D1/F
Prsht Rev.	: NC	Material	:
First Issue	: / /	Due Date	: 06/02/2009
Previous Run	: 43495	Qty:	20
Written By	:	Um:	Each
Checked & Approved By	: <u>JW 09.01.22</u>		
Comment	: Est. B02.11.28 Reformat KJ Est Rev:C 08-09-30 D2750 revF as per dwg DD verified by:EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :	
1.0	D26003120	Extrusion Round 3" 350	
		Comment: Qty.: 1.0000 Each(s)/Unit Total : 20.0000 Each(s) Extrusion Bent Pick: Qty Part Number Description Batch	
		1 D2600-3 Extrusion 37796+14/43960+6	
2.0	BENDING	BENDING MACHINE - SKIDTUBES	
		Comment: BENDING MACHINE Deburr one end of extrusion Drill #30 pilot holes using DT8689 Open holes to 5/16" and deburr Bend using CNC bending machine as per program 2750.C and Folio FT003. Use 5/16 locator pin on buggy "A". Check fit to Jig DT8150	 <i>ZT 09-01-23</i>
3.0	QC5	INSPECT WORK TO CURRENT STEP	
		Comment: INSPECT WORK TO CURRENT STEP Inspect work to Step 6 Ensure fit to Jig DT8150	<i>Sod 09-01-23</i>
4.0	PACKAGING 1	PACKAGING RESOURCE #1	
		Comment: PACKAGING RESOURCE #1 Identify and Stock Location: <u>Skid tube cell</u>	<i>ZT 09-01-23</i>

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 22/01/2009 8:45:10 AM
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 350 SKIDTUBE EXTRUSION (BENT)

Job Number: 45063

Part Number: D26003BENT

Job Number:



Seq. #: Machine Or Operation:

Description :

5.0 QC21

FINAL INSPECTION/W/O RELEASE



09/01/26 JJ

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MR

09.01.23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN <i>DK</i>	DRAWN BY <i>DK</i>	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>KE</i>	APPROVED <i>AS</i>	DRAWING NO. D2600	REV. D SHEET 1 OF 5
DATE 98.08.20		TITLE EXTRUSION	SCALE 1:1
A	97.01.21	NEW ISSUE	
B	97.09.09	CHANGE MATERIAL SPEC.	
C	98.04.16	ADD D2600-3, UPDATE D2600-1 WIDTH, ADD DIE NO.	
D	98.08.20	INCREASE MIN. UTS TO 40 KSI	
D1	01.04.17	ADD PART NUMBERS & DIE NUMBERS <i>HGD</i>	

RELEASED
 18.08.25 DS
GENERAL NOTES

1. MATERIAL: 6061-T6 (QQ-A-200/8)

MINIMUM YIELD TENSILE STRENGTH = 35 ksi
 MINIMUM ULTIMATE TENSILE STRENGTH = 40 ksi
 MINIMUM ELONGATION = 8 %

A SAMPLE FROM EACH BATCH WILL BE PULL TESTED
 TO ASTM STANDARD B221 BY AN APPROVED TESTING
 FACILITY TO ENSURE THAT THE BATCH MEETS THE
 ABOVE MINIMUM MECHANICAL PROPERTIES.

2. BREAK ALL SHARP CORNERS 0.010 MAX.

3. NO TOOLING MARKS.

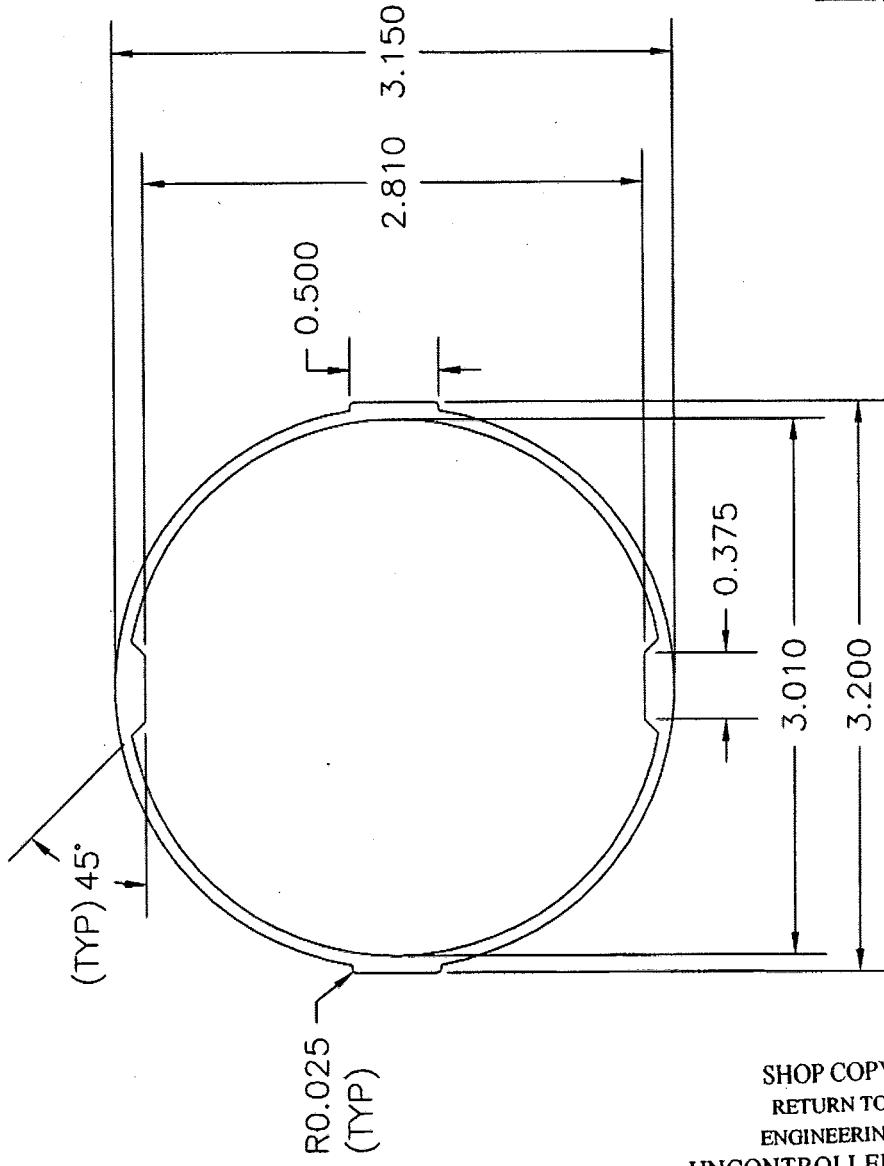
4. TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE
 NOTED.

5. ALL DIMENSIONS ARE IN INCHES.

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 NO. *45063*

DART

DESIGN <i>BB</i>	DRAWN BY <i>JF</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>KE</i>	APPROVED <i>JF</i>	DRAWING NO. D2600	REV. D SHEET 2 OF 5
DATE 98.08.20		TITLE EXTRUSION	SCALE 1:1

RELEASED
98.8.25 DSD2600-1

MANUFACTURED WITH CARADON INDALEX DIE # MH-18870

OR BON L DIE # 897121 (PREFERRED CHOICE)

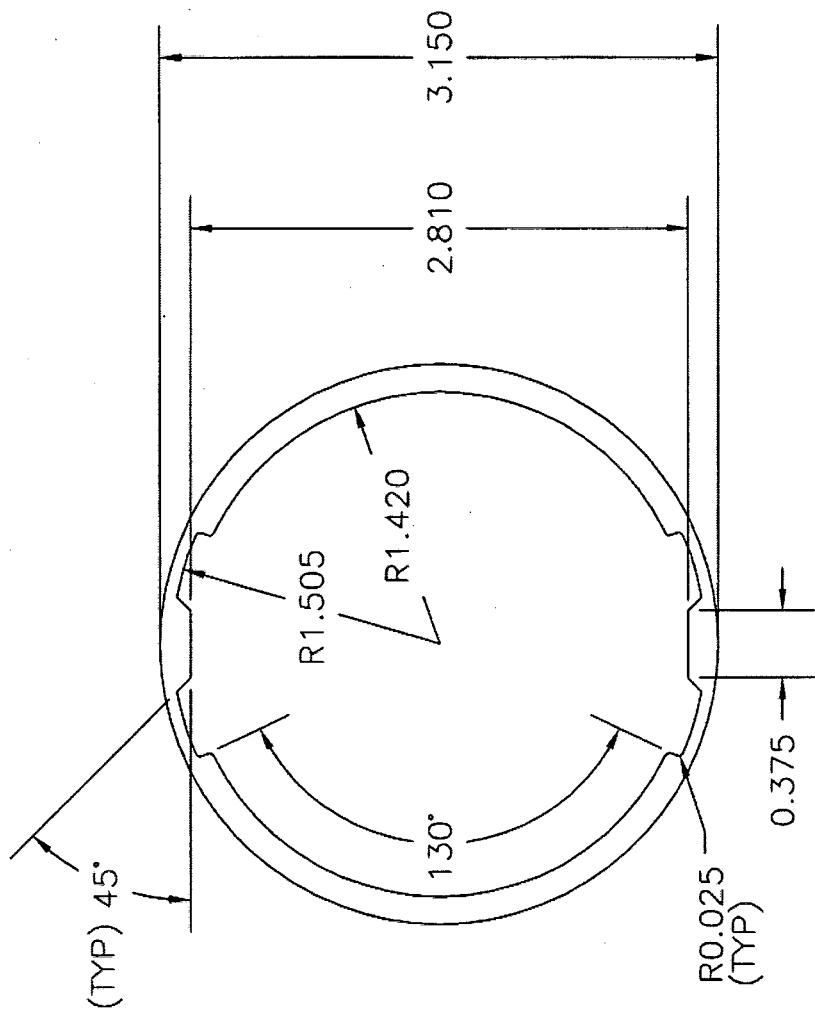
PART NUMBER IS D2600-1-XXX WHERE XXX IS CUT LENGTH IN INCHES (EG. D2600-1-160 IS 160" LONG)



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DARTCOPY ISSUED
DENIED

DESIGN <i>DK</i>	DRAWN BY <i>JH</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>KE</i>	APPROVED <i>JH</i>	DRAWING NO. D2600	REV. D SHEET 3 OF 5
DATE 98.08.20		TITLE EXTRUSION	SCALE 1:1

RELEASED
98.8.15 DS

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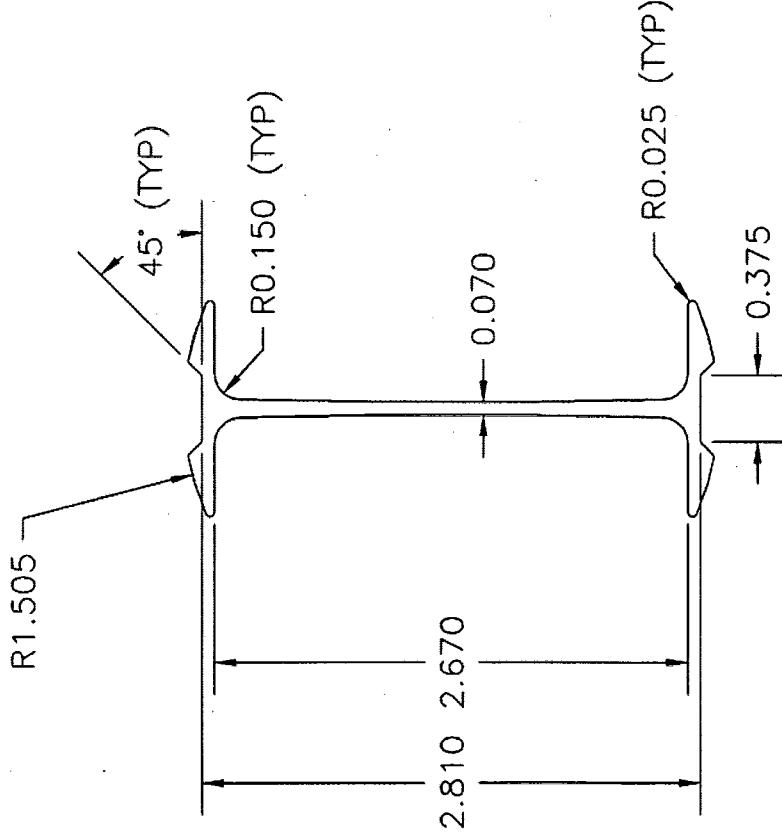
D2600-3

MANUFACTURED WITH CARADON INDALEX DIE # MH-18859
OR BON L DIE # 897122 (PREFERRED CHOICE)
PART NUMBER IS D2600-3-XXX WHERE XXX IS CUT LENGTH IN INCHES (EG. D2600-3-120 IS 120")



DART

DESIGN <i>MH</i>	DRAWN BY <i>BB</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>KE</i>	APPROVED <i>J</i>	DRAWING NO. D2600	REV. D SHEET 4 OF 5
DATE 98.08.20		TITLE EXTRUSION	SCALE 1:1

RELEASED
98.8.25 DSD2600-5

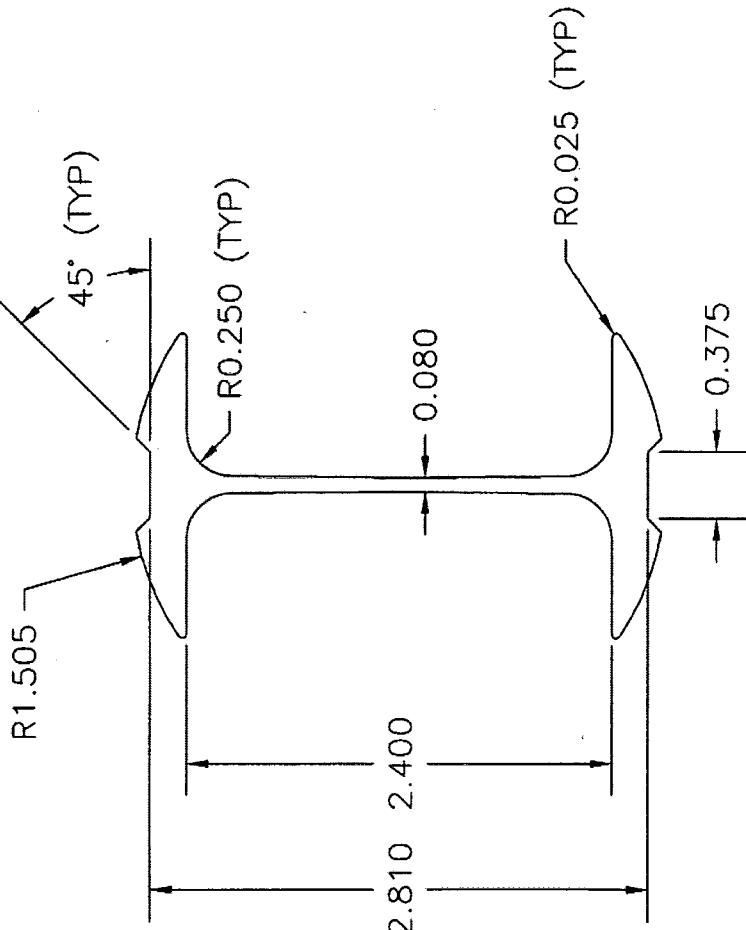
MANUFACTURED WITH CARADON INDALEX DIE # MS-18871
PART NUMBER IS D2600-5-XXX WHERE XXX IS CUT LENGTH IN INCHES
(E.G. D2600-5-108 IS 108" LONG)



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NO. *45063*

DART

DESIGN <i>PF</i>	DRAWN BY <i>AS</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>KE</i>	APPROVED <i>AS</i>	DRAWING NO. D2600	REV. D SHEET 5 OF 5
DATE 98.08.20		TITLE EXTRUSION	SCALE 1:1

RELEASED
98.8.25 DSD2600-7

MANUFACTURED WITH CARADON INDALEX DIE # MS-18872
PART NUMBER IS D2600-7-XXX WHERE XXX IS CUT LENGTH IN INCHES
(EG. D2600-7-125 IS 125" LONG)

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QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
	X			D2750-043	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
	1			D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
	4	4		D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
	8	8		D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- 1) MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- 8) WELD PER DART QSI 004
- 9) INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- 10) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 11) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL 
- 13) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL 

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F	INCORPORATE DS1 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/-3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS; CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741, QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE USA, INC.	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	
MFG. APPR.		REV. F	
APPROVED		D2750	
DE APPR.		SHEET 1 OF 11	
DATE	08.07.16	TITLE	
		350 SKIDTUBE ASSEMBLY	
		NTS	
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8 7 6 5 4 3 2 1

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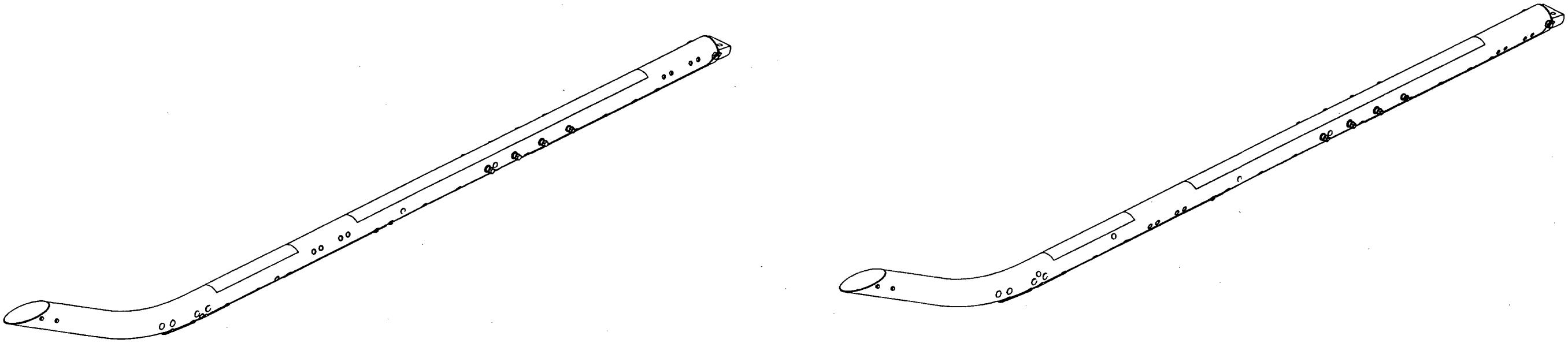
D

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B

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D2750-041 350 SKIDTUBE ASSEMBLY, LH

D2750-042 350 SKIDTUBE ASSEMBLY, RH

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APPROVED	M1	D2750	
DE APPR.	M1	SHEET 2 OF 11	
DATE	08.07.16	TITLE	350 SKIDTUBE ASSEMBLY
		SCALE	NTS
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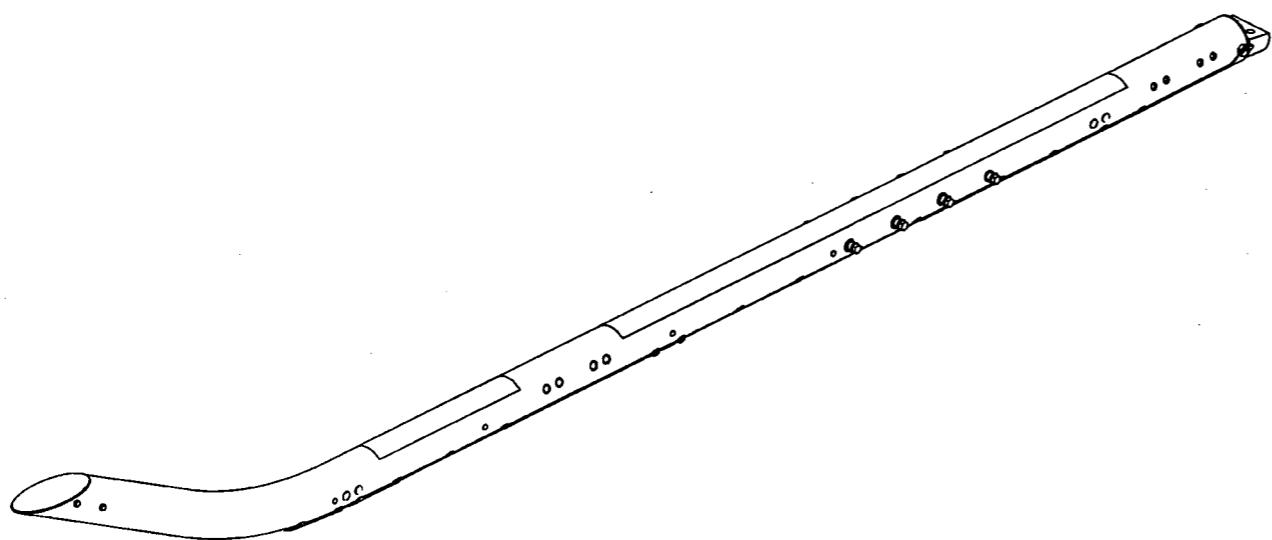
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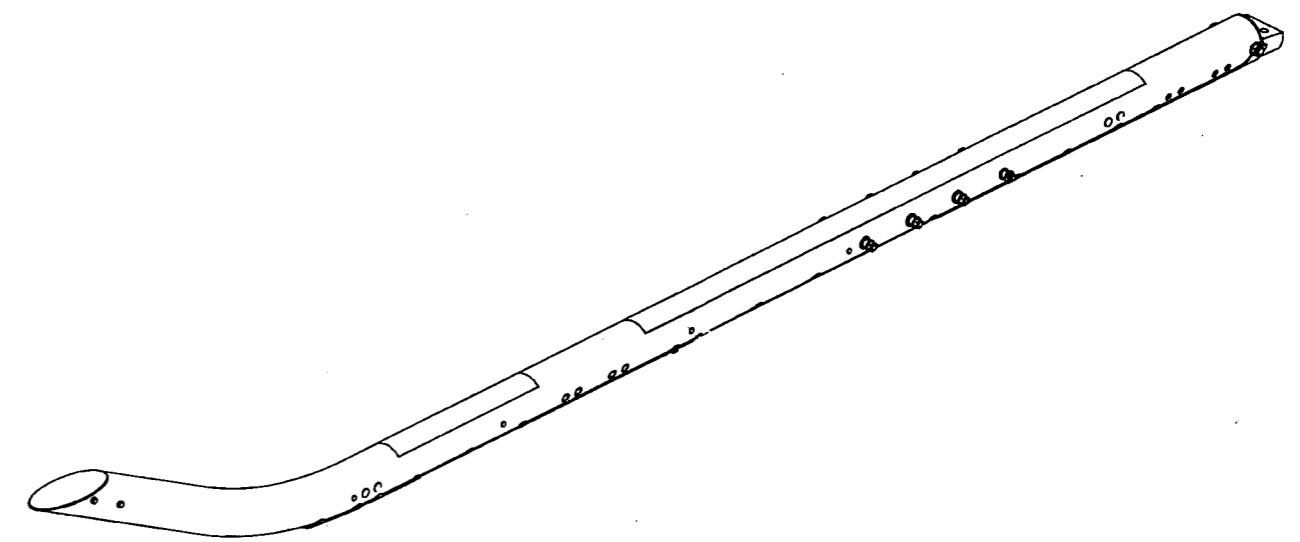
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D2750-043 350 SKIDTUBE ASSEMBLY, LH



D2750-044 350 SKIDTUBE ASSEMBLY, RH

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CHECKED	<u>JL</u>	DRAWING NO.	
MFG. APPR.	<u>NA</u>	REV. F	
APPROVED	<u>MJ</u>	D2750	
DE APPR.	<u>LL</u>	SHEET 3 OF 11	
DATE	08.07.16	TITLE	350 SKIDTUBE ASSEMBLY
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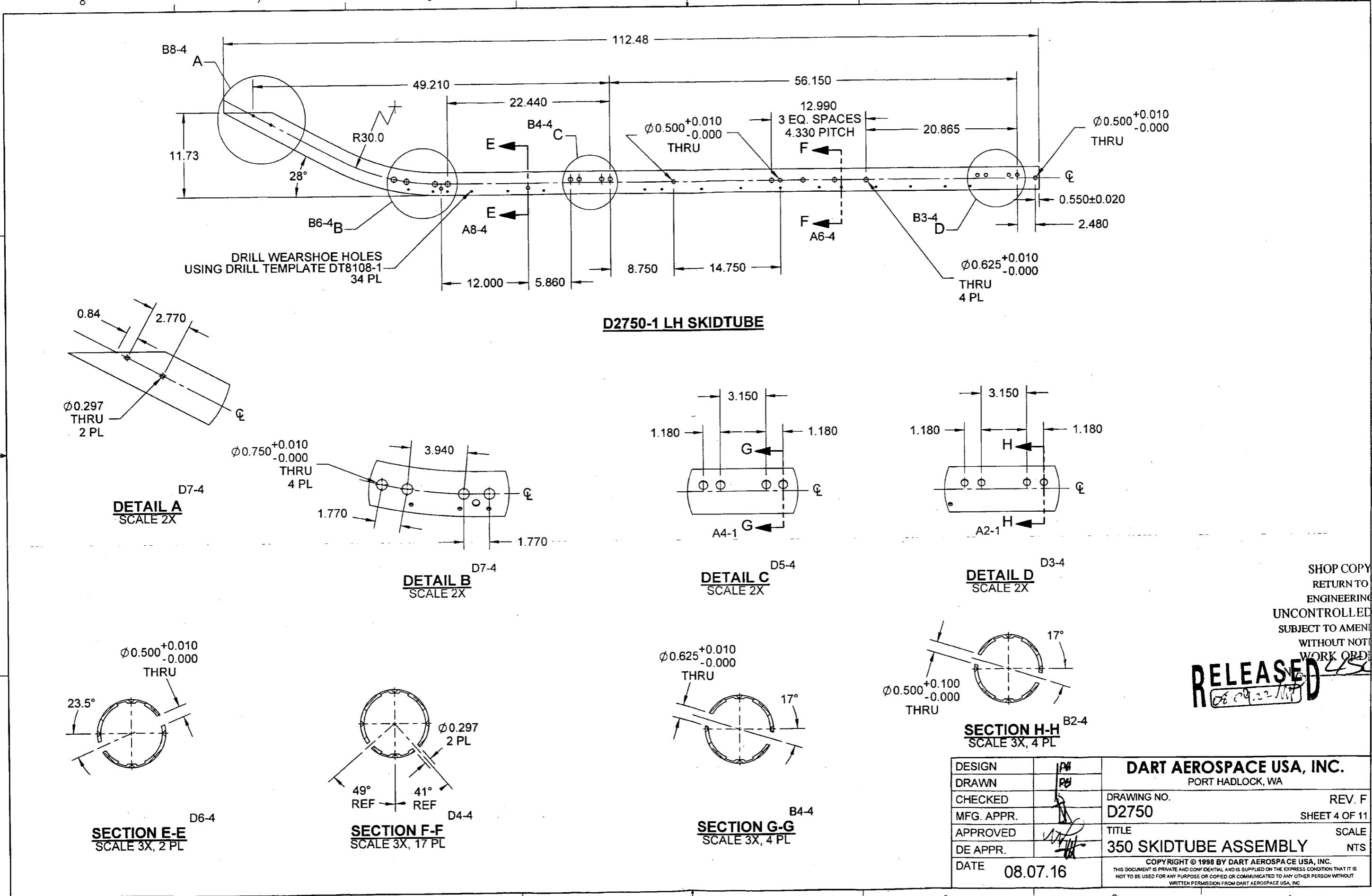
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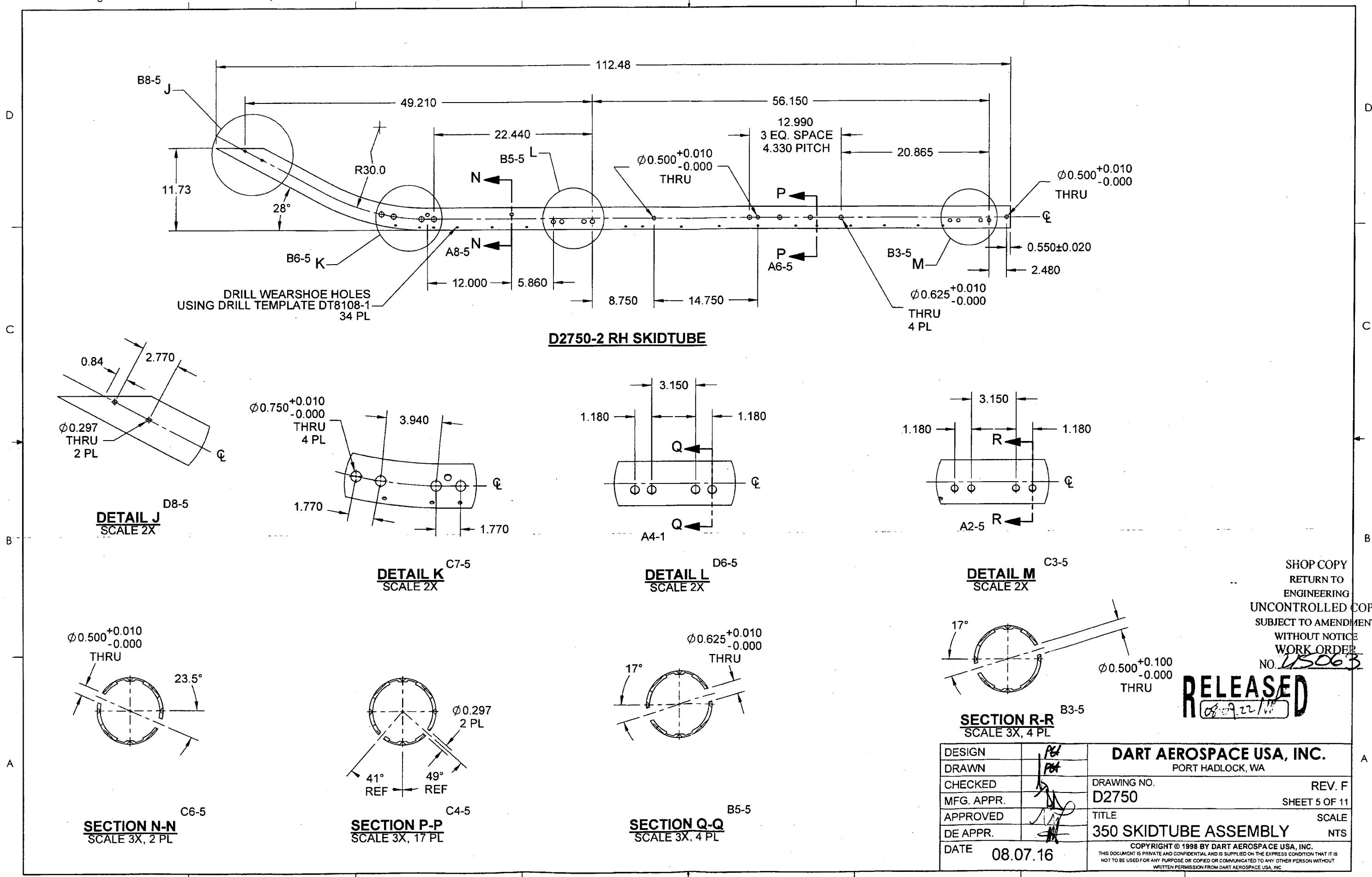
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K, WA

REV E

REV. 1

SHEET 5 OF 11

SCALE

SCALE

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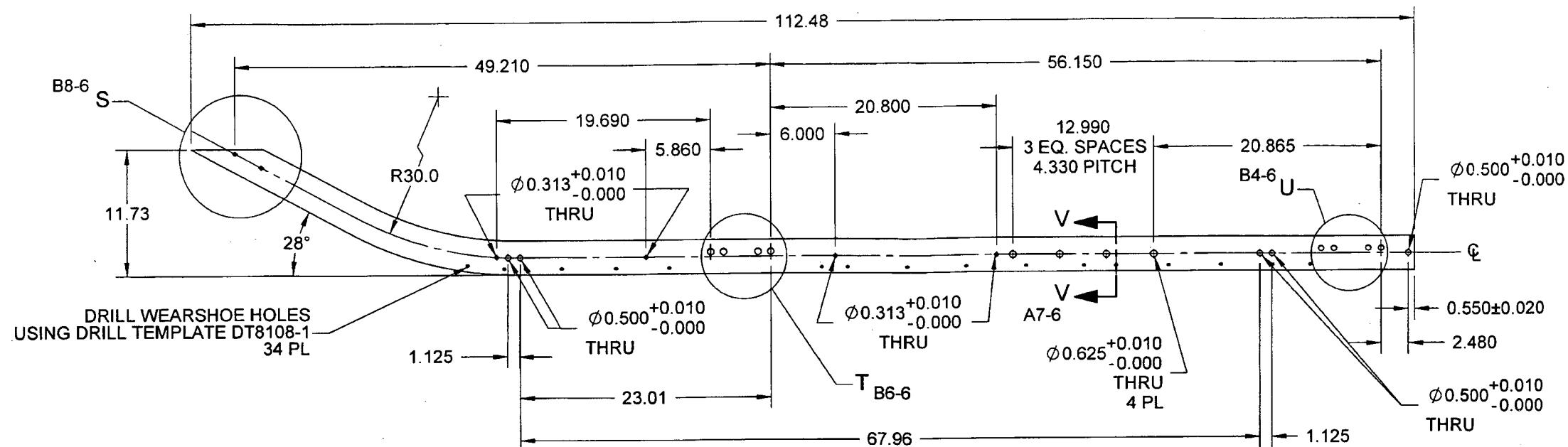
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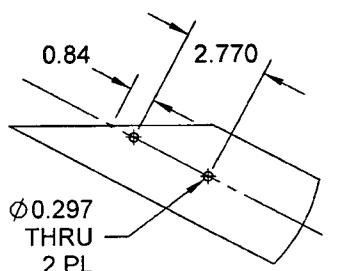
OSPACE USA, INC.

1

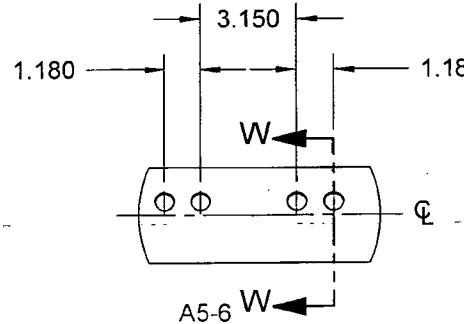
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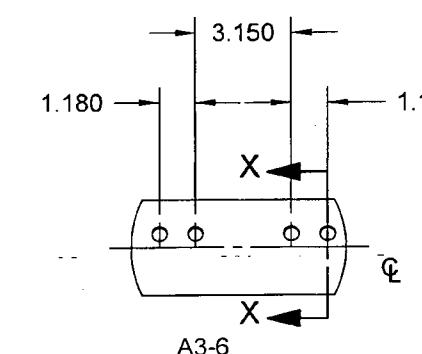
D2750-3 LH SKIDTUBI



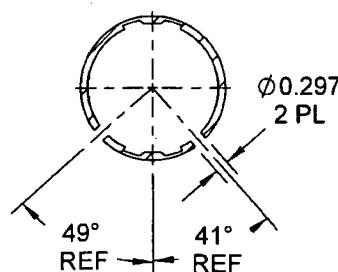
D8-6



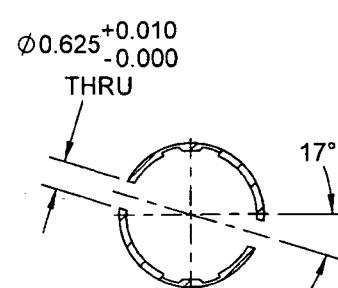
DETAIL T C5-6
SCALE 2X



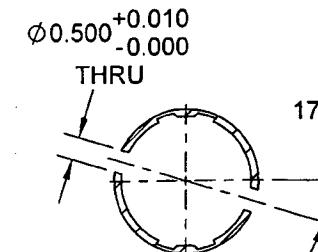
D3-6



C4-6



SECTION W-W B6-6
SCALE 3X. 4 PL



SECTION X-X
SCALE 3X, 4 PL B4-

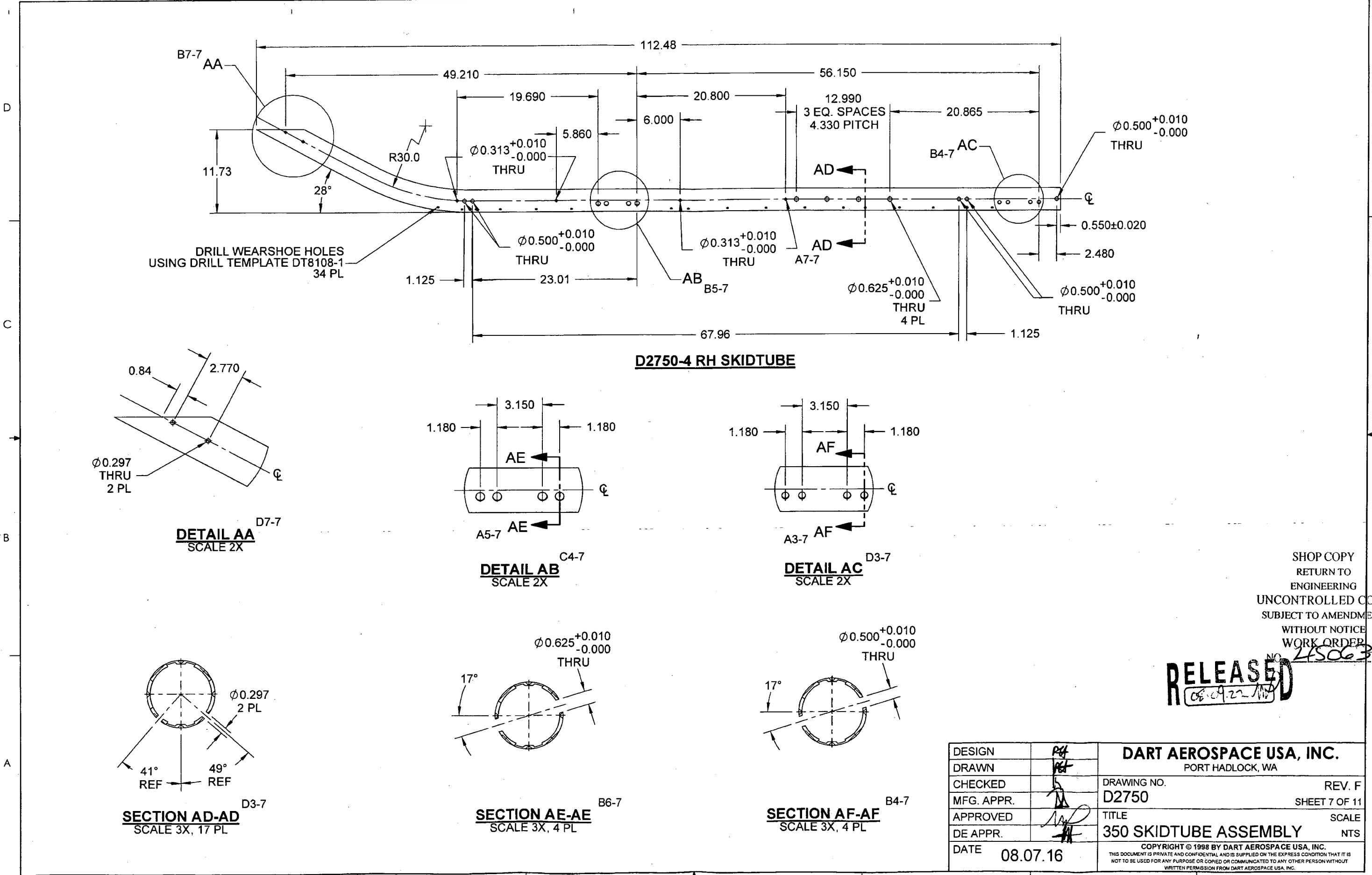
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RELEASED WORK ORDER
10. 45063
08-09-22 JTH

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DRAWN	<i>PSF</i>	PORT HADLOCK, WA	
CHECKED	<i>TA</i>	DRAWING NO.	REV. F
MFG. APPR.	<i>TA</i>	D2750	SHEET 6 OF 11
APPROVED	<i>MJ</i>	TITLE	SCALE
DE APPR.	<i>SH</i>	350 SKIDTUBE ASSEMBLY	NTS
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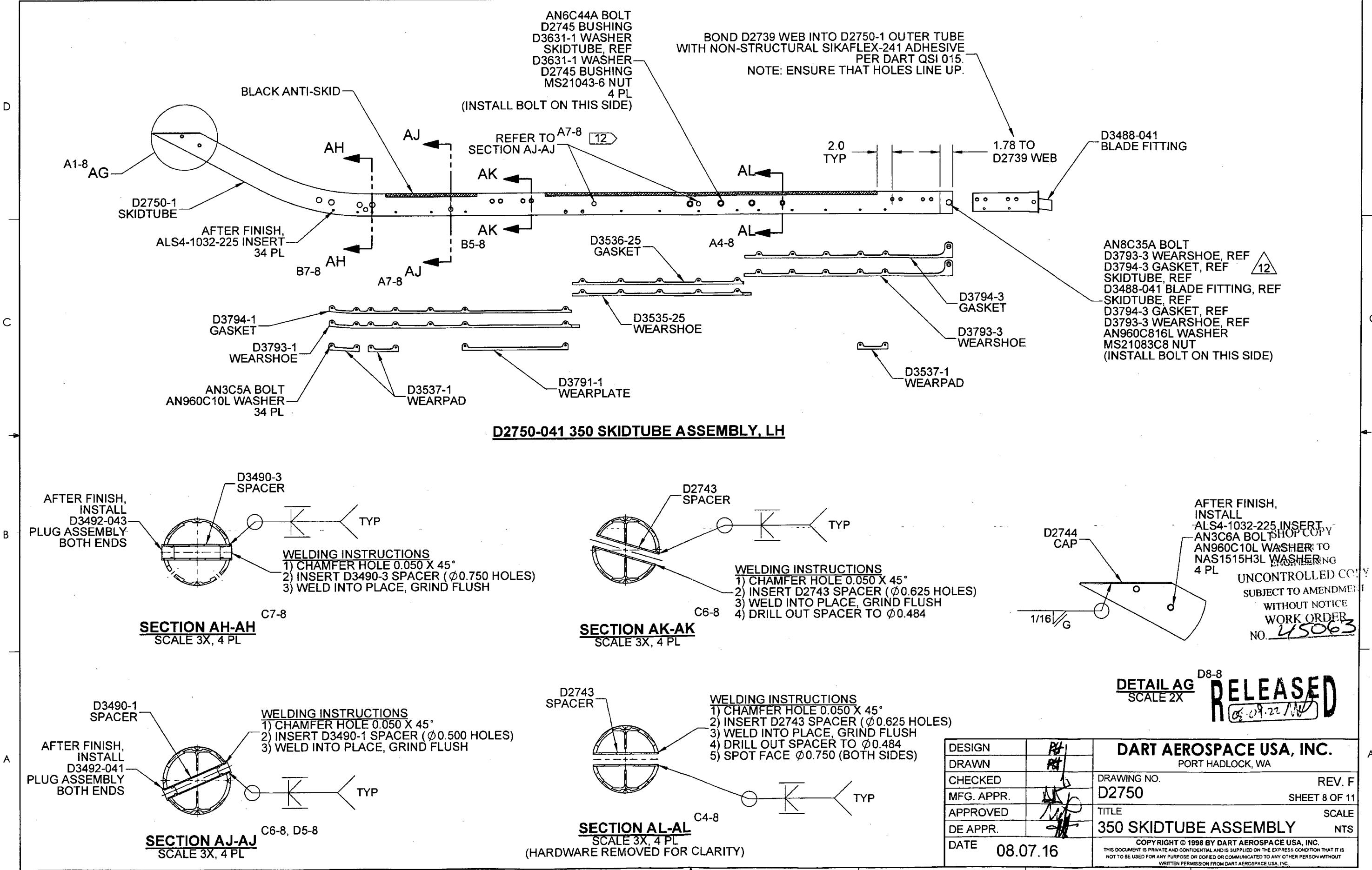
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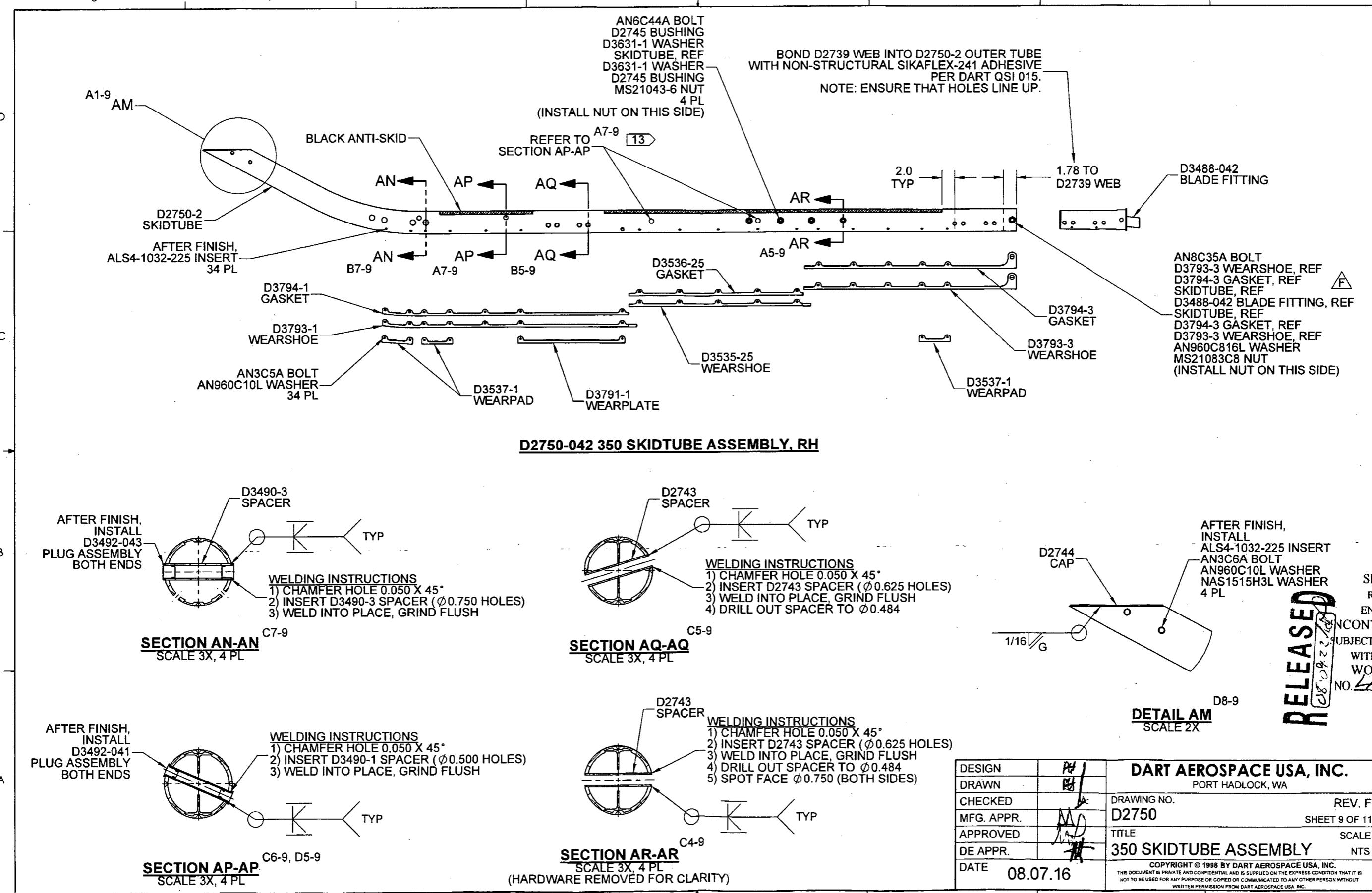
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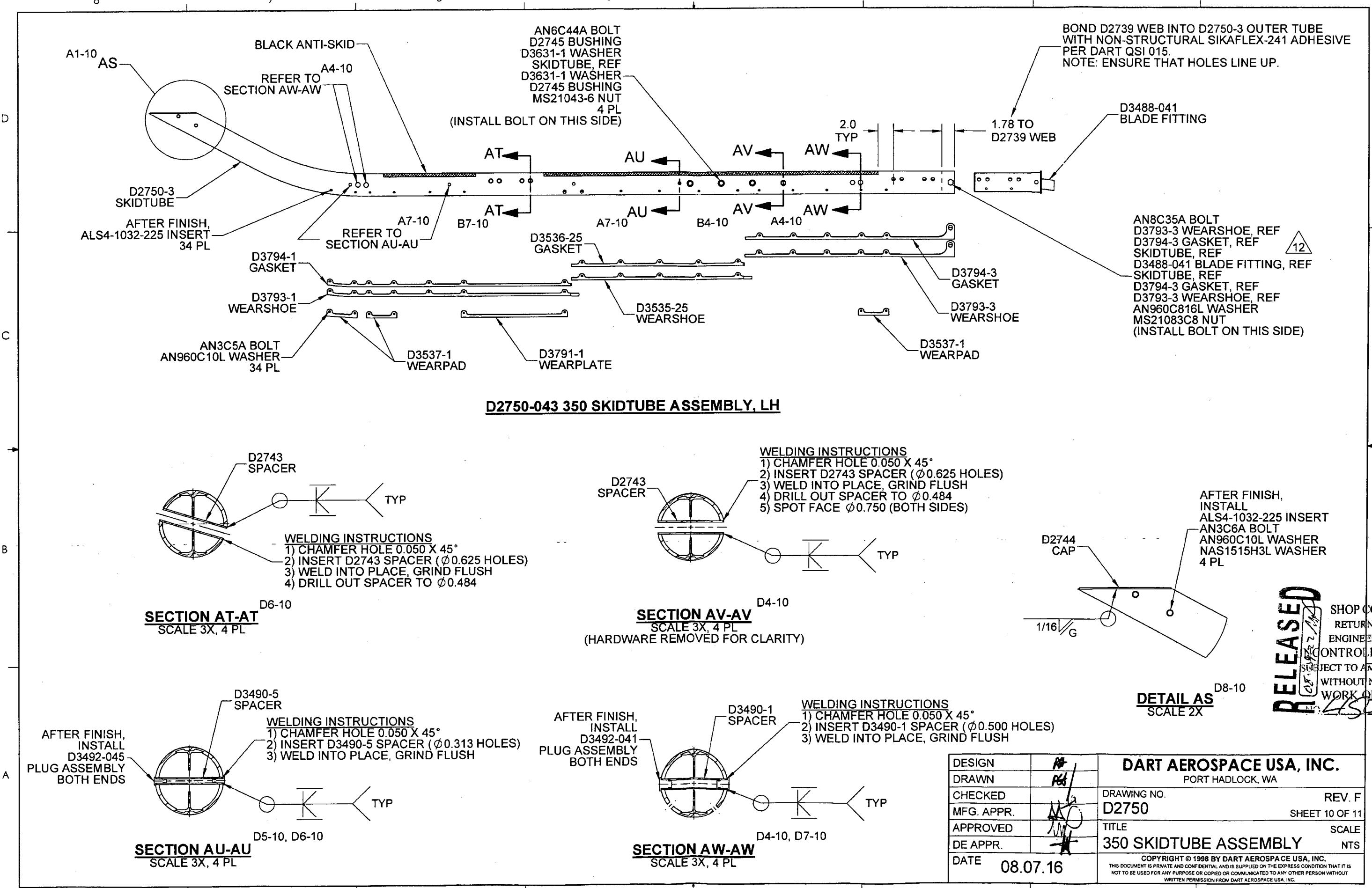


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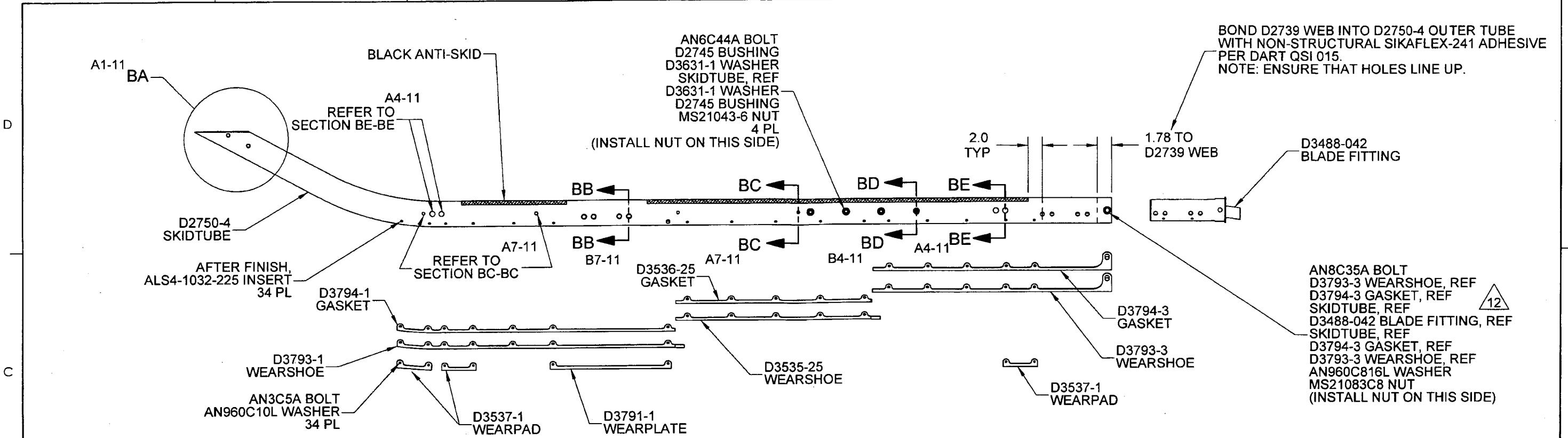
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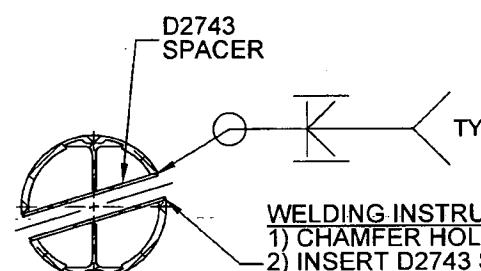


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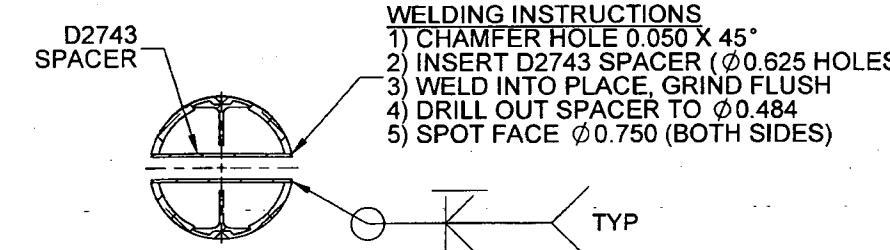
D2750-044 350 SKIDTUBE ASSEMBLY, RH

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08-07-16



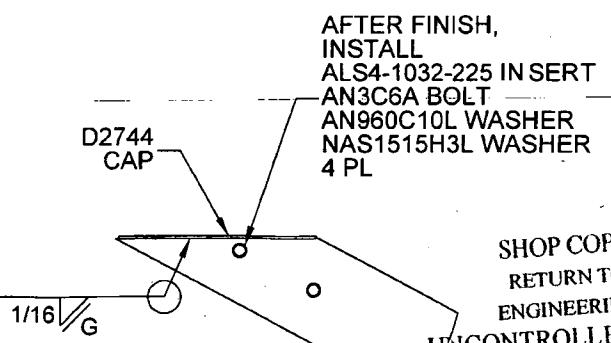
SECTION BB-BB

SCALE 3X, 4 PL

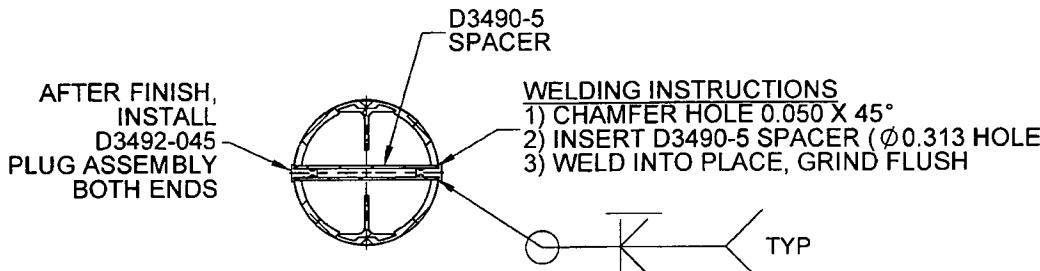


SECTION BD-BD

SCALE 3X, 4 PL
(HARDWARE REMOVED FOR CLARITY)

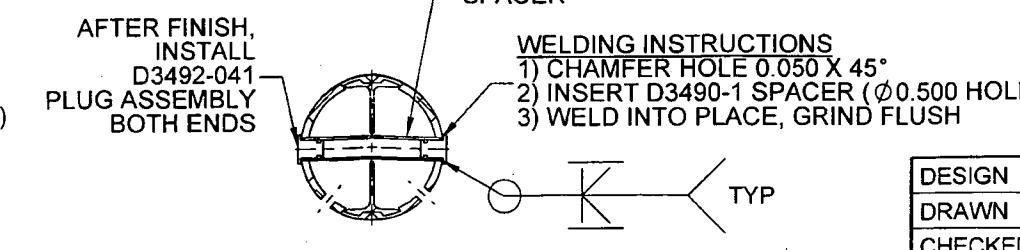


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SECTION BC-BC

SCALE 3X, 4 PL



SECTION BE-BE

SCALE 3X, 4 PL

DESIGN	AS	DART AEROSPACE USA, INC. PORT HADLOCK, WA REV. F SHEET 11 OF 11
DRAWN	AS	
CHECKED		
MFG. APPR.	AS	
APPROVED	AS	
DE APPR.	AS	
DATE	08.07.16	

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